REMARKS/ARGUMENTS

The Examiner indicated that he was confused as to whether the fuel cell is part of the claims. Independent claims 1 and 27 both include the step of supplying the humidified processed process gas stream to the fuel cell. Accordingly, the method does include the step of supplying process gas to a fuel cell, or any equivalent thereof that can be construed to be within the scope of the claim.

The Examiner's comments on claim 30 have been noted.

In response to the rejection of the claims under 35 U.S.C. 103, the claims have been amended. Accordingly, these amendments are summarized and outlined, before addressing the Section 103 rejections.

Claim 1 has been amended to specify that step (b) is carried out in a first heat exchanger and step (d) is carried out in a second heat exchanger. Further, a new step (f) has been added, requiring that a common coolant supply be provided for removing excess heat from these first and second heat exchangers. It will be appreciated that this claim is now essentially directed to the embodiment of Figure 7 in which, for example for one of the process gas streams, the first and second heat exchangers 118 and 126 are provided. A first temperature control circuit 132 for the first heat exchanger 118 includes a further heat exchanger 134, for cooling a heat transfer fluid in that circuit with coolant supplied through the inlet and outlet lines 144, 146. Correspondingly, for the second heat exchanger 126 there is a second heat transfer circuit 162 including a further heat exchanger 164, which again has connections to the coolant supply lines 144, 146. Accordingly, no new matter has been added.

This arrangement is intended to provide a simply and reliable method for removing heat from the process gas stream, while at the same time isolating the process gas stream from the coolant supply.

In claim 27, this claim has been amended essentially to provide for humidification of two gas streams, namely a fuel gas stream and an oxygen gas stream for a fuel cell. Each of these gas streams is subjected to the steps of: humidification;

condensation to remove moisture; and subsequent conditioning to supply the respective gas stream at a desired temperature. Again, as Figure 7 at least clearly shows such conditioning of the gas streams, no new matter has been added.

Claim 28 has been correspondingly amended to refer to providing the final temperature of at least one of the fuel and oxygen gas streams at a greater temperature than the temperature at which condensation is affected.

In claims 29 and 31, it is now specified that the steam is injected to provide two effects, namely humidification and heating of the gas stream. One can note the passage at page 6, lines 5 and 6, for example, which refers to the injection of steam providing both these effects. Accordingly, no new matter has been added.

A new claim 32 has been added directly to the feature of each of the oxygen and fuel gas streams being provided, in effect, with their own respective coolant supplies for cooling the two heat exchangers in each stream, corresponding to the embodiment of Figure 7.

Claim 33, again for each of the fuel and oxygen gas streams, introduces the concept of isolating the coolant supply directly from the process gas stream by use of a heat transfer fluid in a heat transfer circuit.

Turning now to the Examiner's rejection of the claims, claims 1, 2, 4, 7-9, 19, 27-29, and 31 stand rejected under 35 U.S.C. 103(a) over the combined teachings of JP 5-256468, Weitman and either Fleck and/or applicant's admitted prior art. This rejection is respectively traversed. Firstly, applicant has made no admission concerning prior art methods and apparatus; earlier comments amount to no more than generalized statements of desiderata in the fuel cell field, with no detailed indication as to how this would be achieved. It is submitted that the claims both as previously presented and as now amended are distinguished the known art. For brevity, the arguments below are based on the claims as amended.

Claim 1 as now amended requires the presence of a common coolant supply which is supplied to the two heat exchangers for the process gas chambers. No such arrangement is taught in any of the references cited by the Examiner. In the '468 Japanese reference, the so-called cooling tank 25 has some sort of condensation coil,

to the extent that is can be understood, but this is entirely separate from any other heat transfer arrangement, and in any event, again to the extent that this reference can be understood, the technique for controlling the ultimate temperature humidification of the gas is quite different from the present invention.

The Weitman reference, column 4, lines 34-41, refers to an inlet 9 and outlet 10 for a heat transfer fluid, for second stage with the first stage having respective inlet and outlet 3, 4 for a different heat transfer fluid. There is no discussion about how these heat transfer fluids can relate to one another, and certainly no teaching of how they could be the same, or from the same source.

With respect to Fleck, this shows a totally different arrangement, which certainly does not embody the concept of having a common coolant supply.

Accordingly, it is submitted that claim 1, as amended is both novel and inventive. More specifically, it is submitted that any combination of the cited references fail to amount to a prima facie obviousness rejection under 35 U.S.C. 103(a), as they do not disclose all the features of the claims.

With respect to claim 6, the Examiner has further relied upon the disclosures in Ebbing et al. or Othmer. It is submitted that this claim is allowable, both to an independent from an allowable claim, and for reasons previously submitted. With respect to claims 19 and 20, these claims have been amended to refer to the concept of a common coolant supply and the use of heat transfer circuits with a heat transfer fluid that isolates the coolant from the process gas. Accordingly, it is submitted that these claims are clearly also patentable over all known art.

As to claim 27, as noted above, this claim has been amended to include method steps for heating and humidification of both the fuel and oxygen gas streams. It is submitted that this claim is also clearly distinguished from all known art. The art as a whole is generally concerned with controlling the temperature humidity of air for supplied to buildings and the like, i.e. it falls within the art generally known as heating, ventilating and air conditioning (HVAC) systems. As such, there is simply no reason or basis for this art to consider conditioning a different gas stream of a different

composition. Therefore, it is submitted this claim and its dependent claims are clearly allowable.

Again, even some notional or theoretical combination of prior art references, combined with the benefit of hindsight, will not include all the features of this claim, so as to fall short of a prima facie obviousness rejection. Accordingly, early review and allowance are requested.

Respectfully submitted,

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Attachments